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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/854,269 | 05/11/2001 | Thomas H. DiStefano | TESSERA 3.0-139 DIV | 8467 |
| 530 | 7590 | 12/02/2004 | EXAMINER | |
| LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090 | | | LEWIS, MONICA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2822 | |

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,269

Applicant(s)

DISTEFANO, THOMAS H.

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-10 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the election filed August 16, 2004.

Election/Restrictions

2. The election of claims 1-3 is noted however the restriction requirement has been withdrawn and all claims pending in the application have been treated on the merits in this office action.

Claim Objections

3. Claim 10 is objected to because of the following informalities: a) it appears that "at at" is an error (See Claim 10). Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiStefano et al. (U.S. Patent No. 5,455,390) in view of Lakritz et al. (U.S. Patent No. 4,545,610).

In regards to claim 1, DiStefano et al. ("DiStefano") discloses the following:

a) a microelectronic element (94) having a front surface with contact pads (95) thereon (For Example: See Figure 6);

b) a flexible dielectric layer (32) having an exterior surface facing away from said microelectronic element and having terminals (30) exposed at said exterior surface, said terminals being connected to said distal ends (For Example: See Figure 6).

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In regards to claim 1, DiStefano fails to disclose the following:

a) elongated solder columns extending from said front surface of said microelectronic element.

However, Lakritz et al. ("Lakritz") discloses elongated solder columns (38) (For Example: See Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of DiStefano to include elongated solder columns as disclosed in Lakritz because it aids in providing resistance to stress (For Example: See Column 2 Lines 26-55).

Additionally, since DiStefano and Lakritz are both from the same field of endeavor, the purpose disclosed by Lakritz would have been recognized in the pertinent art of DiStefano.

In regards to claim 2, DiStefano discloses the following:

a) a dielectric layer overlies said front surface of said microelectronic element, said dielectric layer having an interior surface facing toward said microelectronic element said dielectric layer having pads connected to said distal ends of and having said terminals thereon connected to said pads (For Example: See Figure 6).

In regards to claim 2, DiStefano fails to disclose the following:

a) solder columns.

However, Lakritz discloses elongated solder columns (For Example: See Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of DiStefano to include elongated solder columns as disclosed in Lakritz because it aids in providing resistance to stress (For Example: See Column 2 Lines 26-55).

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Additionally, since DiStefano and Lakritz are both from the same field of endeavor, the purpose disclosed by Lakritz would have been recognized in the pertinent art of DiStefano.

In regards to claim 3, DiStefano discloses the following:

- a) a compliant layer (80) (For Example: See Figure 6).

Allowable Subject Matter

- 6. Claims 4-10 are allowed.

Response to Arguments

7. Applicant's arguments filed 3/19/04 have been fully considered but they are not persuasive. Applicant argues that the "references offer no incentive to combine their respective teachings with one another in a manner which would meet claim 1... The two references provide alternative solutions to the problem of stress in the joints which connect a chip or a chip package to a circuit board." In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to modify the semiconductor device of DiStefano to include elongated solder columns as disclosed in Lakritz is because it aids in providing resistance to stress (For Example: See Column 2 Lines 26-55). Finally, the restriction requirement of 6/16/04 has been withdrawn.

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Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML
November 29, 2004


A handwritten signature in black ink, appearing to read 'Mary Wilczewski', is written over a series of small, evenly spaced dots that form a horizontal line.

Mary Wilczewski
Primary Examiner